In the Claims:

Please amend claims 1, 9, 17, 25, 29, 33, 37-39 as follows:

1. (Amended) A computer readable medium including computer executable code

stored thereon, the code for estimating power consumption of an integrated circuit,

comprising:

code for simulating logic of basic and mega cells of the integrated circuit;

code for estimating a current consumed by the mega cells by obtaining logic states for

each mega cell, determining an average operation frequency for each logic state, and

determining an alternating current component and a direct current component for each logic

state to calculate said current consumed by the mega cells for estimating a first value of

electric power consumed by said mega cells based on said logic simulations and pre-

established power consumption data;

code for estimating a current consumed by the basic cells for estimating a second value

of electric power consumed by said basic cells based on said logic simulations and pre-

established power consumption data; and

code for combining said first and second values to obtain the power consumption of the

integrated circuit.

9. (Amended) A computer readable medium including computer executable code stored there,

the code for estimating electric power consumed by basic cells and mega cells of an integrated

circuit to estimate total power consumed by the integrated circuit, comprising:

code for simulating logic of said basic cells and said mega cells, wherein each function

of each mega cell for logic simulation is defined by hardware description language;

code for estimating a current consumed by the basic cells for estimating a first value of

electric power consumed by said basic cells based on logic simulation results from said logic

simulations and pre-established power consumption data for each logic state of each input and

output terminal of said basic cells;

code for estimating a current consumed by the mega cells by obtaining logic states for

each mega cell, determining an average operation frequency for each logic state, and

determining an alternating current component and a direct current component for each logic

state to calculate said current consumed by the mega cells for estimating a second value of

electric power consumed by said mega cells based on logic simulation results from said logic

simulations and pre-established power consumption data for said logic states, variables in the

function description, and said operating frequencies at each input and output terminal of each

mega cell; and

code for adding said first and said second values of the power consumption to

determine the total power consumption for the integrated circuit.

17. (Amended)   A computer readable medium including computer executable code stored

thereon, the code for estimating power consumption of an integrated circuit, comprising:

code for compiling a table which tabulates data of electric power consumed by mega

cells of the integrated circuit during operation;

code for simulating logic of said mega cells and basic cells of the integrated circuit,

wherein data from said table is used when simulating logic of said mega cells;

code for estimating a current consumed by the mega cells by obtaining logic states for each mega cell, determining an average operation frequency for each logic state, and determining an alternating current component and a direct current component for each logic state to calculate said current consumed by the mega cells for estimating a first value of electric power consumed by said mega cells based on results from said logic simulations;

code for estimating a current consumed by the basic cells for estimating a second value of electric power consumed by said basic cells based on logic simulation results from said simulations and pre-established power consumption data for each logic state at each input and output terminal of said basic cells; and

code for adding said first and said second values to obtain the power consumption of the integrated circuit.

25. (Amended)   A programmable computer for estimating power consumption of an integrated circuit comprising:

processor for executing computer executable code;

storage media for storing the computer executable code executed by the processor, the computer executable code including:

code for carrying out logic simulations of circuit data for basic cells and mega cells of the integrated circuit;

code for estimating a current consumed by the mega cells by obtaining logic states for each mega cell, determining an average operation frequency for each logic state, and

determining an alternating current component and a direct current component for each logic

state to calculate said current consumed by the mega cells for estimating a first value of

electric power consumed by said mega cells based on the results of said logic simulations and

pre-established power consumption data;

code for estimating a current consumed by the basic cells for estimating a second value

of electric power consumed by said basic cells based on the results of said logic simulations

and pre-established power consumption data; and

code for combining said first and second values of electric power consumed by said

mega and basic cells so as to obtain the power consumption of the integrated circuit.

29. (Amended)   A programmable computer for estimating power consumption of an

integrated circuit, comprising:

processor for executing computer executable code;

storage media for storing the computer executable code executed by the processor, the

computer executable code including:

code for carrying out logic simulations of circuit data for basic cells and mega cells of

the integrated circuit;

code for estimating a current consumed by the basic cells for estimating a first value of

electric power consumed by said basic cells, said estimate being based on logic simulation

results obtained by said simulation means and pre-established power consumption data for each

logic state at each input and output terminal of said basic cells;

code for estimating a current consumed by the mega cells by obtaining logic states for

each mega cell, determining an average operation frequency for each logic state, and

determining an alternating current component and a direct current component for each logic

state to calculate said current consumed by the mega cells for estimating a second value of

electric power consumed by said mega cells, said estimate being based on logic simulation

results obtained by said simulation means and pre-established power consumption data for each

logic state, variables in a function description, and said operating frequencies of said mega

cells at each input and output terminal; and

      code for adding said first and second values of power consumed by said basic and mega

cells so as to obtain the power consumption of the integrated circuit.

33. (Amended)   A programmable computer for estimating power consumption of an

integrated circuit comprising:

      processor for executing computer executable code;

      storage media for storing the computer executable code executed by the processor, the

computer executable code including:

      a table which tabulates data of electric power consumed by mega cells of the integrated

circuit during operation;

      code for carrying out logic simulations of circuit data for basic cells of the integrated

circuit and said mega cells, wherein data from said table is used when simulating logic of said

mega cells;

      code for estimating a current consumed by the mega cells by obtaining logic states for

each mega cell, determining an average operation frequency for each logic state, and determining an alternating current component and a direct current component for each logic state to calculate said current consumed by the mega cells for estimating a first value of electric power consumed by said mega cells, said estimate being based on logic simulation results from said simulation means;

code for estimating a current consumed by the basic cells for estimating a second value of electric power consumed by said basic cells, said estimate being based on logic simulation results obtained by said simulation means and pre-established power consumption data for logic states for each input and output terminal of said basic cells; and

code for adding said first and second values of the power consumed by said mega and basic cells so as to obtain the power consumption of the integrated circuit.

37. (Amended)   A programmed computer for estimating power consumption of an integrated circuit, the programmed computer programmed with code comprising:

code for simulating logic of basic and mega cells of the integrated circuit;

code for estimating a current consumed by the mega cells by obtaining logic states for each mega cell, determining an average operation frequency for each logic state, and determining an alternating current component and a direct current component for each logic state to calculate said current consumed by the mega cells for estimating a first value of electric power consumed by said mega cells based on said logic simulations and pre-established power consumption data;

code for estimating a current consumed by the basic cells for estimating a second value

of electric power consumed by said basic cells based on said logic simulations and pre-

established power consumption data; and

code for combining said first and second values to obtain the power consumption of the

integrated circuit.

38. (Amended) A programmed computer for estimating electric power consumed by

basic cells and mega cells of an integrated circuit to estimate total power consumed by the

integrated circuit, the programmed computer programmed with code comprising:

code for simulating logic of said basic cells and said mega cells, wherein each function

of each mega cell for logic simulation is defined by hardware description language;

code for estimating a current consumed by the basic cells for estimating a first value of

electric power consumed by said basic cells based on logic simulation results from said logic

simulations and pre-established power consumption data for each logic state of each input and

output terminal of said basic cells;

code for estimating a current consumed by the mega cells by obtaining logic states for

each mega cell, determining an average operation frequency for each logic state, and

determining an alternating current component and a direct current component for each logic

state to calculate said current consumed by the mega cells for estimating a second value of

electric power consumed by said mega cells based on logic simulation results from said logic

simulations and pre-established power consumption data for said logic states, variables in the

function description, and said operating frequencies at each input and output terminal of each

mega cell; and

code for adding said first and said second values of the power consumption to determine the total power consumption for the integrated circuit.

39. (Amended)   A programmed computer for estimating power consumption of an integrated circuit, the programmed computer programmed with code comprising:

code for compiling a table which tabulates data of electric power consumed by mega cells of the integrated circuit during operation;

code for simulating logic of said mega cells and basic cells of the integrated circuit, wherein data from said table is used when simulating logic of said mega cells;

code for estimating a current consumed by the mega cells by obtaining logic states for each mega cell, determining an average operation frequency for each logic state, and determining an alternating current component and a direct current component for each logic state to calculate said current consumed by the mega cells for estimating a first value of electric power consumed by said mega cells based on results from said logic simulations;

code for estimating a current consumed by the basic cells for estimating a second value of electric power consumed by said basic cells based on logic simulation results from said simulations and pre-established power consumption data for each logic state at each input and output terminal of said basic cells; and

code for adding said first and said second values to obtain the power consumption of the integrated circuit.